

Abstract of the Disclosure

**[0030]** Apparatus for gas distribution in a semiconductor wafer processing chamber 200 having a roof 228. The roof 228 has a top surface 608 and a bottom surface 312. A recess 314 is disposed within the bottom surface 312 of the roof 228. A gas distribution plate 316 is disposed within the recess 314 and a material layer coating 320 is disposed upon the bottom surfaces 312/500 of the roof 228 and the gas distribution plate 316. The material layer coating 320 and the gas distribution plate 316 each have a plurality of apertures 322/404. The apertures 404 of the gas distribution plate 316 coincide with the apertures 322 in the material layer coating 320. The material layer coating 320 is formed from silicon carbide and most preferably is deposited by chemical vapor deposition (CVD). Both the roof 228 and gas distribution plate 316 are fabricated from silicon carbide.